

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

Paper No. 22

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

*Ex Parte* ROBERT J. O'DONNELL, CHRISTOPHER C. CHANG  
and JOHN E. DAUGHERTY

**URGENT**

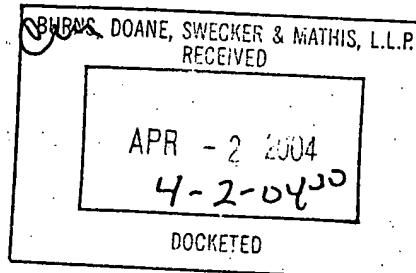
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U.S. PATENT AND TRADEMARK OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

Appeal No. 2004-0421  
Application No. 09/749,923

ON BRIEF



Before, KRATZ, DELMENDO and JEFFREY T. SMITH, *Administrative Patent Judge*.  
Docket No. 015290-46 Pk5/Jwp/h

JEFFREY T. SMITH, *Administrative Patent Judge*.

Reg Consideration  
Due 5/31/04

Appeal to Court  
Due 5/31/04

Applicants appeal the decision of the Primary Examiner finally rejecting claims 12 to 27 and 30.<sup>1</sup> We have jurisdiction under 35 U.S.C. § 134.<sup>2</sup>

<sup>1</sup> Claims 28 and 29 stand objected to as depending on a rejected base claim. (Answer, p. 3).

<sup>2</sup> In rendering this decision, we have considered Appellants' arguments presented in the Brief filed November 18, 2002 and the Reply Brief filed March 24, 2003.

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### BACKGROUND

Appellants' invention is directed to a component of semiconductor processing equipment that comprises a fullerene coating. According to Appellants, semiconductor processing equipment includes components that are exposed to highly corrosive plasma during semiconductor processing. (Brief, p. 2). Claims 12 and 22 which are representative of the invention are reproduced below:

12. A component of semiconductor processing equipment comprising:  
(a) a surface;

(b) an optional intermediate coating on said surface;

(c) an optional second intermediate coating on said first intermediate coating or on said surface; and

(d) a fullerene containing coating on said component that forms an outer corrosion resistant surface.

22. A component of semiconductor processing equipment having at least one surface exposed to plasma in the equipment, the component comprising a fullerene containing material forming a surface exposed to plasma in the equipment.

### CITED PRIOR ART

As evidence of unpatentability, the Examiner relies on the following prior art:

Fagan

5,382,719

Jan. 17, 1995

Holtkamp

5,704,613

Jan. 06, 1998

Appellants' admission of the prior art in the specification, page 2, third paragraph of the disclosure.

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### ***THE REJECTIONS***

The Examiner entered the following rejections:

Claims 12 to 18, 20 to 27 and 30 as unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of the admitted prior art and Fagan; and claim 19 unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of the admitted prior art, Fagan and Holtkamp. (Answer, pp. 3-5).

### ***OPINION***

Upon careful review of the respective positions advanced by Appellants and the Examiner, we find ourselves in agreement with Appellants' position in that the Examiner has failed to carry the burden of establishing a *prima facie* case of obviousness. *See In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1471-72, 223 USPQ 785, 787-88 (Fed. Cir. 1984). Accordingly, we will not sustain the Examiner's rejections. We will limit our discussion to independent claims 12 and 22.<sup>3</sup>

We find claims 12 and 22 are directed to a component of semiconductor processing equipment. The component comprises a fullerene containing material

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<sup>3</sup> The Examiner did not cite the Holtkamp reference in the rejection of claims 12 and 22. Thus, we will not include a discussion of this reference in our decision.

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forming an exposed surface. We also find that Appellants' claims require the fullerene containing material renders the surface corrosion resistant.

According to the Examiner, Applicants' admitted prior art discloses a component of semiconductor processing equipment that does not include a fullerene containing coating. (Answer, p. 4).

According to the Examiner, "Fagan discloses that mixtures of fullerene compounds are useful as corrosion resistant coatings (Col. 5, lines 24-30); wherein the fullerene containing coating are C<sub>60</sub>, C<sub>70</sub> or mixtures thereof; wherein fullerenes form a continuous matrix phase of said fullerene containing coating." (Answer, p. 4).

The Examiner concluded that "[i]t would have been within the scope of one of ordinary skill in the art to combine the teachings of applicant's admitted prior art and Fagan to achieve further corrosion resistance." (Answer, p. 4).

The Examiner has not provided adequate reasons why there is motivation to combine the references and why such a combination would have rendered the claimed subject matter unpatentable under 35 U.S.C. § 103(a). Fagan does not disclose the types of surfaces that could be rendered corrosion resistant. Fagan does not disclose that the fullerene containing material could be applied to surfaces of components commonly used in semiconductor processing equipment. Further, Fagan does not disclose that fullerene containing materials are resistant to plasma from a semiconductor reactor. The mere fact that the prior art could be modified as proposed

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by the Examiner is not sufficient to establish a *prima facie* case of obviousness. *See In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992). The Examiner must explain why the prior art would have suggested to one of ordinary skill in the art the desirability of the modification. *See Fritch*, 972 F.2d at 1266, 23 USPQ2d at 1783-84. The Examiner has failed to cite evidence in the prior art that the suggestion to modify the cited references as proposed by the Examiner exists.

The record indicates that the motivation relied upon by the Examiner for adding a fullerene containing material to the semiconductor component of the prior art comes from the Appellants' description of their invention in the specification rather than coming from the applied prior art and that, therefore, the Examiner used impermissible hindsight in rejecting the claims. *See W.L. Gore & Associates v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983); *In re Rothermel*, 276 F.2d 393, 396, 125 USPQ 328, 331 (CCPA 1960). Accordingly, we reverse the Examiner's rejection under 35 U.S.C. § 103(a) over the combination of the admitted prior art and Fagan. The rejections of claims 12 to 27 and 30 are reversed.

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***CONCLUSION***

The rejections of claims 12 to 18 and 20 to 27 as unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of the admitted prior art and Fagan; and claim 19 unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of the admitted prior art, Fagan and Holtkamp are reversed.

***REVERSED***

Peter F. Kratz )  
PETER F. KRATZ )  
*Administrative Patent Judge* )  
  
Romulo H. Delmendo ) BOARD OF PATENT  
ROMULO H. DELMENDO ) APPEALS AND  
*Administrative Patent Judge* ) INTERFERENCES  
  
Jeffrey T. Smith )  
*Administrative Patent Judge* )

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